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MICROSOFT CORPORATION C/O MERCHANT & GOULD, L.L.C. P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			HUYNH, THU V	
			ART UNIT	PAPER NUMBER
			2178	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/982,122

Applicant(s)

BECKER ET AL.

Examiner

Thu V Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/15/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This action is responsive to communications: IDS filed 01/15/2002 and application filed on 10/18/2001.
2. Claims 1-26 are pending claims in this case. Claims 1, 11, 14 are independent claims.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1-2, 4, 11-13, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al., US 6,157,934, filed 10/1996, in view of Reina et al., US 5,729,745, filed 11/1994, and Bredenberg, US 5,826,253, filed 04/1996.**

**Regarding independent claim 1, Khan teaches the steps of:**

- receiving a request at said spreadsheet application program to access an asynchronous data element available from an asynchronous data source (Khan, receiving a request at a client spreadsheet to access a server spreadsheet);
- exposing an interface at said spreadsheet application program for receiving a notification that a changed value for said data element is available (Khan, col.6, lines

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31-41 and fig.1; receiving email messages for updated data, such as company's expense, invoice or purchase order at client spreadsheet);

- determining whether a notification has been received at said interface indicating that a changed value for said data element is available (Khan, col.6, lines 31-41; determining of receiving email messages);
- in response to determining that a notification has been received at said interface, inserting the update data into client spreadsheet (Khan, col.6, lines 31-41); and
- receiving said changed value for said data element from said asynchronous data server at said spreadsheet application program (Khan, col.6, lines 31-41; client' spreadsheet receives update data for linked cells from the server).

Khan does not explicitly teaches notifying an asynchronous data server that said spreadsheet application program should be notified at said interface in the event that a changed value for said data element is available; and in response to determining that a notification has been received at said interface, contacting said asynchronous data server and requesting said changed value for said data element.

Reina teaches the steps of:

- receiving a request at said spreadsheet application program to access an asynchronous data element available from an asynchronous data source (Reina, col.18, lines 8-16; receiving a request at a client spreadsheet to access a server spreadsheet);
- exposing an interface at said spreadsheet application program for receiving a notification that a changed value for said data element is available (Reina, col.6, line

- 64 – col.7, line 3; notification for updated data at is given to the client from the server to update the client spreadsheet);
- notifying an asynchronous data server that said spreadsheet application program wants data to be transferred (Reina, col.7, lines 32-39; “the client notifies the server whether it wants data to be transferred when the data changes”);
  - determining whether a notification has been received at said interface indicating that a changed value for said data element is available (Reina, col.7, lines 28-31; determining a notification has been received);
  - in response to determining that a notification has been received at said interface, contacting said asynchronous data server and requesting said changed value for said data element (Reina, col.7, lines 28-37; col.14, lines 14-20, lines 27-29; col.18, lines 8-16);
  - receiving said changed value for said data element from said asynchronous data server at said spreadsheet application program (Reina, col.7, lines 28-37; col.14, lines 14-20, lines 27-29).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Reina into Khan to contact the server and request updated data, since the combination would have provided many ways to transfer the update data to client spreadsheet as Khan suggested that besides email communication, other means of electronic document can be used (Khan, col.2, lines 50-52; col.6, lines 1-3).

While teaching notifying the server, Reina does not explicitly disclose notifying the server to notifying the spreadsheet when the data changes.

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Bredenberg teaches indicating the server to notify an application when particular data changes (Bredenberg, abstract).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Bredenberg's notifying into Reina's notifying to indicate the server to notify the client spreadsheet when data changes, since the combination would have provided many options for notifying the server.

**Regarding claim 2**, which is dependent on claim 1, Khan teaches recalculating a spreadsheet that includes said changed data value in response to receiving said changed value for said data element (Khan, col.6, lines 37-41; inserting the updated data and recalculating the client spreadsheet).

**Regarding claim 4**, which is dependent on claim 1, Khan teaches wherein said notification from said asynchronous data server indicating that a changed value for said data element is available is received asynchronously (Khan, col.7, lines 15-24).

**Claims 11-13** are for a computer system performing the method of claims 1-2, and are rejected under the same rationale.

**Claim 20** is for a computer apparatus performing the method of claim 1, and is rejected under the same rationale.

5. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khan in view of Reina and Bredenberg as applied to claim 2 above, and further in view of Igra et al., US 6,701,485 B1, filed 06/1999.**

**Regarding claim 3**, which is dependent on claim 2, Khan does not explicitly teach wherein said recalculation is limited to cells contained in said spreadsheet that depend upon said changed data value.

Igra teaches recalculation is limited to cells contained in said spreadsheet that depend upon said changed data value (Igra, col.9, line 48 – col.10, line 15).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Igra into Khan to provide “a recalculation engine ensures that only the cells containing formulas that reference a cell receiving a property change notification are recalculated upon such notification” (Igra, col.10, lines 12-15), since the combination would have an appropriate recalculation of spreadsheet as Igra suggested in col.9, lines 50-54.

6. **Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan in view of Reina and Bredenberg as applied to claim 1 above, and further in view of Jokela et al., US 2002/0184247 A1, priority filed 05/2001, and Ferguson et al., US 2002/0129054 A1, filed 08/2001**

**Regarding claim 5**, which is dependent on claim 1, Khan does not explicitly teach, wherein said request at said spreadsheet application program to access an asynchronous data

element is received through a worksheet time data function provided by said spreadsheet application program.

Jokela teaches, “spreadsheet may be updated by settings in computer application to automatically request updated data blocks” (Jokela, [0024]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Jokela into Khan and Reina to setting update mode for a spreadsheet, since the combination would have allowed automatic or manual request at client’s spreadsheet for accessing the server to update the client spreadsheet as Reina suggest different values are used to define different update modes (Reina, col.15, lines 25-31).

Ferguson teaches “updating may take place at predetermined intervals or upon a change in the data” (Ferguson, [0215]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Ferguson into Jokela and Reina to provide a predetermined time to update the spreadsheet, since the combination would have allowed the spreadsheet to be updated based on the change data, predetermined time as Ferguson disclosed as well as automatic or manual modes as Reina disclosed.

**Claim 21** is for a computer apparatus performing the method of claim 5, and is rejected under the same rationale.

7. **Claims 6-7, 9, 22-23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable**



over **Khan in view of Reina and Bredenberg** as applied to claim 1 above, and further in view of **Ferguson et al.**, US 2002/0129054 A1, filed 08/2001

**Regarding claim 6**, which is dependent on claim 1, Khan does not explicitly teach maintaining a throttle interval value defining when said determination should be made regarding whether a notification has been received at said interface indicating that a changed value for said data element is available.

Ferguson teaches “updating may take place at predetermined intervals or upon a change in the data” (Ferguson, [0215]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Ferguson into Khan and Reina to provide an interval value for determining the receiving of notification in order updating the spreadsheet, since the combination would have allowed the spreadsheet to be updated based on the change data, predetermined time as Ferguson disclosed as well as automatic or manual modes as Reina suggest different values are used to define different update modes (Reina, col.15, lines 25-31).

**Regarding claim 7**, which is dependent on claim 6, Khan teaches determining whether a notification has been received at said interface indicating that a changed value for said data element is available to update the client’s spreadsheet (Khan, col.6, lines 31-41). However, Khan does not explicitly teaches determining whether said throttle interval value is set for a manual update mode prior to determining whether a notification has been received at said interface indicating that a changed value for said data element is available and in response to determining that said throttle interval value is set for manual update mode, determining whether

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a notification has been received at said interface indicating that a changed value for said data element is available only in response to a manual request.

Reina teaches:

- determining whether said throttle interval value is set for a manual update mode prior to determining whether a notification has been received at said interface indicating that a changed value for said data element is available (Reina, col.15, lines 25-31; automatic or specific request from the user mode); and
- in response to determining that said throttle interval value is set for manual update mode, determining whether a notification has been received at said interface indicating that a changed value for said data element is available only in response to a manual request (Reina, col.6, lines 64-66; col.17, lines 17-29; col.18, lines 8-16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Reina and Khan to provide update modes, since the combination would have updated the spreadsheet automatically or specifically request for the user.

**Regarding claim 9**, which is dependent on claim 6, Khan teaches determining whether a notification has been received at said interface indicating that a changed value for said data element is available to update the client's spreadsheet (Khan, col.6, lines 31-41). However, Khan does not explicitly teaches determining whether said throttle interval value is set to wait a predetermining amount of time prior to determining whether a notification has been received at said interface indicating that a changed value for said data element is available; and in response

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to determining that said throttle interval value is set to wait a predetermining amount of time, determining whether a notification has been received at said interface indicating that a changed value for said data element is available only in response to a manual request.

Reina teaches:

- determining whether said throttle interval value is set for a update mode prior to determining whether a notification has been received at said interface indicating that a changed value for said data element is available (Reina, col.15, lines 25-31; automatic or specific request from the user mode); and
- in response to determining that said throttle interval value is set the update mode, determining whether a notification has been received at said interface indicating that a changed value for said data element is available based on the set mode (Reina, col.6, lines 64-66; col.17, lines 17-29; col.18, lines 8-16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Reina and Khan to provide update modes, since the combination would have updated the spreadsheet automatically or specifically request for the user.

Reina does not explicitly disclose a mode update for a predetermined interval of time.

Ferguson teaches “updating may take place at predetermined intervals or upon a change in the data” (Ferguson, [0215]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Ferguson into Khan and Reina to provide an interval value for determining the receiving of notification in order updating the spreadsheet, since the

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combination would have allowed the spreadsheet to be updated based on the change data, predetermined time as Ferguson disclosed as well as automatic or manual modes as Reina suggest different values are used to define different update modes (Reina, col.15, lines 25-31).

**Claims 22-23 and 25** are for a computer apparatus performing the method of claims 6-7 and 9 respectively, and are rejected under the same rationale.

8. **Claims 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan in view of Reina, Bredenberg and further in view of Ferguson as applied to claim 6 above, and further in view of D'Souza et al., US 2004/0221289 A1, priority filed 12/1996.**

**Regarding claim 8**, which is dependent on claim 6, Khan teaches determining whether a notification has been received at said interface indicating that a changed value for said data element is available to update the client's spreadsheet (Khan, col.6, lines 31-41). Khan does not explicitly disclose determining whether said throttle interval value is set for a constant update mode prior to determining whether a notification has been received at said interface indicating that a changed value for said data element is available; and in response to determining that said throttle interval value is set for constant update mode, determining whether a notification has been received at said interface indicating that a changed value for said data element is available whenever said spreadsheet application program is idle

Reina teaches:

- determining whether said throttle interval value is set for a constant update mode prior to determining whether a notification has been received at said interface

indicating that a changed value for said data element is available (Reina, col.15, lines 25-31; automatic or specific request from the user).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Reina and Khan to provide update modes, since the combination would have updated the spreadsheet automatically or specifically request for the user.

Reina does not explicitly disclose in response to determining that said throttle interval value is set for constant update mode, determining whether a notification has been received at said interface indicating that a changed value for said data element is available whenever said spreadsheet application program is idle.

D'Souza teaches updating operation on different periodic bases, which include at scheduled times and during network idle times (D'Souza, [0012], [0048], [0049]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined D'Souza into Khan to determine of receiving update notification when spreadsheet application is idle, since the combination would have updated when the spreadsheet on different periodic bases as well as to maximize usage of on-line connection time as D'Souza disclosed in the abstract.

**Claim 24** is for a computer apparatus performing the method of claim 8, and is rejected under the same rationale.

9. **Claims 10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Khan in view of Reina and Bredenberg as applied to claim 1 above, and further in view of Forecast et al., US 6,230,200 B1, filed 09/1997.**

**Regarding claim 10**, which is dependent on claim 1, Khan teaches determining whether a notification has been received at said interface indicating that a changed value for said data element is available to update the client's spreadsheet (Khan, col.6, lines 31-41). Khan does not explicitly disclose determining whether a heartbeat value has elapsed since a previous update was received from said asynchronous data server in response to determining that no notification has been received at said interface and restarting said asynchronous data server in response to determining that said heartbeat value has elapsed.

Forecast teaches server heartbeats of stream server is used to determine whether a failure of to disrupt the stream and initiating stream server recovery in response to failure receiving the server heartbeat within a timeout period (Forecast, col.52, lines 52-59).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Forecast into Khan to provide a heartbeat mechanism, since the combination would have recovered the communication between the server and client's spreadsheet.

**Claim 26** is for a computer apparatus performing the method of claim 10, and is rejected under the same rationale.

10. **Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al., US 6,157,934, filed 10/1996, in view of Reina et al., US 5,729,745, filed 11/1994.**

**Regarding independent claim 14**, Khan teaches the steps of:

- maintain an interface for use by a spreadsheet application program through which a notification may be received indicating that an asynchronous data server has an asynchronous data value available for said spreadsheet application program (Khan, col.6, lines 31-41; col.8, lines 9-14; receiving email messages for updated data at client's spreadsheet); and
- maintain an interface at said asynchronous data server for communicating with said spreadsheet application program, said interface maintained at said asynchronous data server supporting a refresh data method (Khan, col.6, lines 20-41).

Khan does not explicitly disclose the spreadsheet application request the asynchronous data server to transmit said asynchronous data value to said spreadsheet program.

Reina teaches spreadsheet application requests asynchronous data value from said asynchronous data server (Reina, col.7, lines 28-38).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Reina into Khan to provide a request of transmitting update data from the client spreadsheet, since the combination would have allow the client to initial a request to update or automatically update the client spreadsheet when the data changes.

**Regarding claim 15**, which is dependent on claim 14, Khan teaches wherein said interface maintained at said asynchronous data server further supports a connect data method that may be called by said spreadsheet application program (Khan, col.6, lines 18-26 and col.8, lines

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30-32). However, Khan does not explicitly disclose spreadsheet application requests a new asynchronous data value from said asynchronous data server.

Reina teaches spreadsheet application requests a new asynchronous data value from said asynchronous data server (Reina, col.7, lines 28-38).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Reina into Khan to support a connect data method, since the combination would have allow the client to initial a request to update or automatically update the client spreadsheet when the data changes.

11. **Claims 16-17, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan in view of Reina as applied to claim 14 above, and further in view of Bredenberg, US 5,826,253, filed 04/1996, and Bladow et al., US 6,115,040, filed 09/1998.**

**Regarding claim 16**, which is dependent on claim 14, Khan does not explicitly teach wherein said interface maintained at said asynchronous data server further supports a disconnect data method that may be called by said spreadsheet application program to inform said asynchronous data server that said spreadsheet application program no longer requires a notification indicating that said asynchronous data server has a data value available for said spreadsheet application.

Bredenberg teaches the client informs the server to not notify the client of particular data changes (Bredenberg, col.78, lines 36-40; “receiving a request from the particular client to drop the range, whereupon said database server no longer notifies the particular client of any events that affect data records in said range”).



It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Bredenberg into Khan and Reina to provide options for notifying the server, since the combination would have allowed the client's spreadsheet to inform the server to send or do not send an update notification.

Bredenberg does not explicitly disclose a disconnect data method that may be called by said spreadsheet application program to inform said asynchronous data server that said spreadsheet application program no longer requires a notification indicating that said asynchronous data server has a data value available for said spreadsheet application.

Bladow teaches when client application is not active, the server close and cleanup routines associated with client's application (Bladow, col.4, lines 18-33).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Bladow into Khan, Reina and Bredenberg to inform the server to disconnect data, since the combination would have "prevent[ed] unwanted sessions from remaining open in the event of client application failures as Bladow disclosed.

**Regarding claim 17**, which is dependent on claim 14, Khan does not teach wherein said interface maintained at said asynchronous data server further supports a heartbeat method that may be called by said spreadsheet application program to determine whether said asynchronous data server is active.

Bladow teaches heartbeat message is used to detect and inform the communications alive between the client application and the server. When client application fails to heartbeat, the

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server close and cleanup routines associated with client's application (Bladow, col.4, lines 18-33).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Bladow into Khan and Reina to provide a heartbeat method, since the combination would have determined if a current session is still alive.

**Regarding claim 19**, which is dependent on claim 14, Khan does not teach wherein said interface maintained at said asynchronous data server further supports a server terminate method that terminates said asynchronous data server in the event that said spreadsheet application program no longer requires data values from said asynchronous data server.

Bladow teaches when client application is not active, the server closes and cleanups routines associated with client's application (Bladow, col.4, lines 18-33).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Bladow into Khan, Reina and Bredenberg to terminate the server, since the combination would have "prevent[ed] unwanted sessions from remaining open in the event of client application failures as Bladow disclosed.

12. **Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khan in view of Reina as applied to claim 14 above, and further in view of Forecast et al., US 6,230,200 B1, filed 09/1997.**

**Regarding claim 18**, which is dependent on claim 14, Khan does not teach wherein said interface maintained at said asynchronous data server further supports a server start method that

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may be called by said spreadsheet application program to start said asynchronous data server, said server start method taking as a parameter a callback object implementing said interface maintaining by said spreadsheet application.

Forecast teaches server heartbeats of stream server is used to determine whether a failure of to disrupt the stream and initiating stream server recovery in response to failure receiving the server heartbeat within a timeout period (col.52, lines 52-59).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Forecast into Khan to start the server communication, since the combination would have recovered the communication between the server and client spreadsheet.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burfoot, US 2002/0188629 A1, filed 10/2001, teaches method for the creation of distributed spreadsheet.

Silverman et al., US 6,505,175 B1, filed 10/1999, teaches order centric tracking system.

Greif, US 5,371,675, filed 1992, teaches spreadsheet program which implements alternative rage references.

Rand et al., US 2004/0080528 A1, filed 12/2000, teaches method for presenting interactive programs over the internet.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu V Huynh whose telephone number is (571) 272-4126. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen S Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVH  
March 15, 2005

  
**STEPHEN HONG**  
SUPERVISORY PATENT EXAMINER